Distr.
GENERAL

UNCTAD/ITP/TEC/15
19 October 1990

Original: ENGLISH

THE IMPLEMENTATION OF LAWS AND REGULATIONS ON TRANSFER OF TECHNOLOGY: THE EXPERIENCE OF BRAZIL

Study prepared by Arthur Camara Cardozo at the request of
the UNCTAD secretariat

GE.90-55948/2518B

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Foreword

(i) This study has been prepared in pursuance of resolution 32 (VII) of the Committee on Transfer of Technology, which requested the UNCTAD secretariat to continue its work on national laws and regulations conducive to the transfer and development of technology, and to carry out a comparative analysis of the role of different national legal systems in promoting investment, innovation and transfer of technology.

(ii) It also complements a series of studies prepared by the UNCTAD secretariat in response to Conference resolution 112 (V), which requested the Secretary-General of UNCTAD to undertake an empirical analysis of the effects of legislation and regulations on technology transfer in selected countries. 1/

(iii) The study reviews the experience of Brazil in the implementation of laws and regulations on the transfer and acquisition of technology, with particular reference to the period following the establishment of the National Institute of Industrial Property (INPI) in 1970.

(iv) The study describes the legal and institutional framework for the transfer of technology in Brazil, giving particular attention to the functions and activities of the INPI. An account is given of the key legal instruments and mechanisms applied by the Institute to regulate and guide the transfer of technology to Brazil. The inflow of technology to Brazil over the period 1978-1987 is analysed through the contracts submitted to the Institute for review and approval. The study then assesses the impact on the transfer of technology to Brazil of the introduction of the relevant legislation and the establishment of the Institute.

(v) The study was prepared at the request of the UNCTAD secretariat by Mr. Arthur Camara Cardozo, staff member of the National Institute of Industrial Property of Brazil. The views expressed in the study do not necessarily reflect those of the UNCTAD secretariat.

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Chapter I

THE TRANSFER OF TECHNOLOGY TO BRAZIL: THE REGULATORY AND INSTITUTIONAL FRAMEWORK

A. The genesis of the first regulatory legislation

1. The growing importance of imported technology in the Brazilian economy during the 1950s led the Brazilian Government to develop in 1958 a set of measures initially directed towards fiscal and foreign currency problems arising from such importation. These measures were later refined and broadened in scope over the years as a means of controlling and guiding the transfer of technology into the country.

2. The first of these measures was prompted by the rapid increase in remittances of foreign currency for the purchase of technology. Studies by the Ministry of Finance found that the Brazilian subsidiaries of foreign companies were using such payments to remit funds to their parent companies, thereby gaining a two-fold advantage. First, they evaded the tax that would have been payable if the funds had been remitted as profits. Secondly, the sums claimed as the cost of importing technology could be deducted from their taxable earnings. To prevent such practices, Law No. 3470 was enacted, which set a ceiling on the royalty payments and payments for technical assistance that could be claimed as deductions for tax purposes. The maximum allowable deduction, according to the law, was 5 per cent of the gross earnings of the product. Subsequently, the Ministry issued rules setting ceilings for the various sectors of the economy. These ranged from 1 to 5 per cent depending on the product.

3. A more comprehensive policy approach on technology transfer was adopted in 1962 with the enactment of Law No. 4131 controlling the use of foreign capital and remittances of funds abroad. The new law 2/ reaffirmed the ceilings specified by Law No. 3470 and restricted deductions to a maximum period of five years. It also introduced two new measures: (a) the establishment of registration service 3/ to which contracts and documents relating to payments for the transfer of technology had to be submitted; and, (b) a prohibition for branches or subsidiaries of foreign companies in Brazil to pay royalties to their parent companies abroad for the use of patents or trade marks.

4. These measures were further supplemented by Law No. 4137, 4/ also enacted in 1962, which deals with the prevention of the abuse of economic power and establishes mechanisms for the prevention of restrictive business practices, which are commonly encountered in negotiations involving the transfer of technology.

5. The set of measures described above provided the basis for the policies on technology transfer in Brazil until the late 1960s. However, experience showed that they were insufficient to provide an effective framework for the regulation of technology and that there still was a need for new instruments to strengthen the provisions in force.

B. Establishment of the National Institute of Industrial Property and its regulatory instruments

6. A new stage in the regulation of the inflow of technology began in 1970 with the establishment by Law No. 5648 of the National Institute of Industrial Property (INPI), which is responsible for the implementation of legislation on industrial property and for the adoption of measures to accelerate and regulate the transfer of technology. The Institute is also empowered to make recommendations concerning the desirability of signing, ratifying or withdrawing from conventions, treaties and other agreements concerning industrial property.

7. Under Rule No. 112, laid down by the Ministry of Trade and Industry, the Institute is responsible for the following:

(a) The application in Brazil of the provisions governing industrial property, with due regard to its social, economic, legal and technical function;

(b) The adoption of measures to regulate and accelerate the transfer of science and industrial technology from abroad and within Brazil, in conformity with the priorities set in the light of the national interest;

(c) The adoption of measures to create better conditions for negotiations concerning imported technology and its use, including patented technology;

(d) The removal of obstacles to the absorption and dissemination of technology through measures to prevent the incorporation of implicit or explicit contractual restrictions in contracts for the transfer of technology;

(e) The creation of a better environment for the absorption, adaptation and development of science and industrial technology through the full utilization of accumulated knowledge and its wide dissemination in industry and among researchers;

(f) Recommendations regarding the desirability of signing, ratifying or withdrawing from conventions and agreements on industrial property and the transfer of industrial technology.

8. The Institute maintains contact with related bodies in other countries and with international organizations concerned with its field of interest such as the World Intellectual Property Organization (WIPO), the United Nations Conference on Trade and Development (UNCTAD) and the Latin American Economic System (SELA), with a view to enhancing joint activities and the exchange of technical information. It is also in charge of the performance of responsibilities assumed under international treaties in its field of interest such as the Patent Co-operation Treaty.

9. A year after the establishment of the Institute, a new Industrial Property Code was promulgated in Law No. 5772. 5/ Although still mainly concerned with trade marks and patents in line with the purposes of the Paris

Convention, 6/ the Code went further and included articles dealing with the transfer of technology. In this respect, the law provides that agreements and contracts involving the transfer of technology require the approval of INPI. The Institute is also responsible for the registration of trade marks and the granting of patents. Moreover, licensing contracts for the use of trade marks must be submitted to the Institute for approval, although they may not be considered to involve a transfer of technology.

10. On the basis of the above legislation, INPI started to issue regulations in the forms of Normative Acts 7/ and Rules signed by the President of the Institute. Thus in Normative Act No. 15 of 1975, 8/ the Institute established the basic principles and rules to be observed by parties to transfer of technology contracts. The Act defines the types of contracts, the general conditions, the amount of royalties payable; the duration of contracts, and form of payment. It also specifies the type of clauses and conditions that may not be included in such contracts.

11. This was followed, among others, by Normative Act No. 32 of 1978, which requires prior consultation with INPI before the signature of contracts by parties to a transfer of technology negotiation.

12. The 1980s saw the beginning of a new phase in which the Institute, while continuing its traditional operations, created new mechanisms permitting more dynamic action to secure improved control of the transfer of technology and to promote research and development activities with a resulting expansion of the national technological infrastructure. One of the main mechanisms in this new phase was the creation of sectoral working groups. The process began in 1980, when a group consisting of representatives of the Institute, the Brazilian Association of Consulting Engineers and the Brazilian Association of Industrial Engineers was set up under Rule No. 19 to advise the Institute in the evaluation of contracts for the importation of engineering and consultancy services. One year later, a group for capital goods was set up under Rule No. 129, followed in 1982 by a group on chemicals and petrochemicals. Both groups consist of representatives of government agencies, research institutes and associations of manufactures. Also in 1981, Normative Act No. 53 set up a commission to examine contracts for the transfer of technology in the data processing field. The commission consists of specialists from the Institute and from the Special Information Sciences Secretariat of the Ministry of Science and Technology. The working groups proved to be highly productive. 9/ The participation of bodies independent of the Institute and of recognized technical competence enabled the Institute to refine its analysis of contracts and to increase public understanding of its work. The working group on engineering and consultancy services enabled the Institute to establish the existence of an unwarranted number of contracts for the importation of engineering services. In light of these findings and the necessity of updating regulations for the importation of specialized technical services, Normative Act No. 60 was issued in 1982. This Act was designed to encourage the development of project technology in Brazil, to strengthen national engineering and consultancy firms and to prevent the importation of technical assistance or services already available in Brazil.

13. In 1983, the Institute issued Normative Act No. 64 with the principal objective of strengthening domestic technological capacity. Under the Normative Act, the approval of imports of technology is subject to the implementation of programmes of investment in the national technological infrastructure as well as in research and development at the importing company and/or in an independent research institute. The investment programme is defined in terms of the action considered necessary to enable the importing enterprise to properly absorb the imported technology and to ensure eventual technological independence. The amount to be invested is defined in the light of the agreed or estimated cost of the contract for the transfer of technology.

Chapter II

REVIEW AND EVALUATION OF TRANSFER OF TECHNOLOGY CONTRACTS

14. The evaluation and approval of transfer of technology contracts constitute the main functions of the institutes. In addition to its team of professionals, the Institute relies on the technical support of working groups for capital goods, chemicals and petrochemicals, information sciences and specialized technical services. The groups meet regularly at the Institute to evaluate contracts, furnish information and provide advice. Initially organized since 1980, the groups consist of representatives of manufacturers' associations, research institutions and government agencies, such as the Council for Industrial Development, the National Bank for Economic and Social Development, the Surveys and Projects Finance Agency and the Special Information Sciences Secretariat.

15. In evaluating contracts, particularly those involving unusual subject areas, the Department seeks technical opinions from independent bodies, such as research centres, universities and professional associations dealing with specific technical sectors.

16. The support of these institutions and of the working groups has become an essential element in the Institute's work and has greatly strengthened the decision-making process, besides promoting closer links between specialists actively concerned with the country's technological and industrial policy. Thus, during the past seven years, 5,312 contracts, a quarter of the total approved by the Institute over the period, were reviewed by outside institutions. Table 1 summarizes the participation of the working groups and other institutions in the Institute's work in recent years.

17. The importance of the working group on specialized technical services emerges clearly from the table. Although the number of contracts analysed tended to diminish over the years, the group was responsible for over half (55 per cent) of the contracts reviewed by the groups.

18. The substantial increase in the workload of the information sciences group is also striking. When it was set up in 1981, the group was involved in the review of nearly 9 per cent of all the contracts submitted to the Institute. Its share has risen steadily and was 41 per cent in 1987. This growth reflects the dynamism of the sector, which generates a great many contracts, particularly with regard to the supply of software.

Table 1

Number of contracts reviewed with advice of various bodies

(1981-1987)

	1981	1982	1983	1984	1985	1986	1987	T O T A L
Working Group on specialized technical services	757	738	535	318	223	197	159	2927
Working Group on information sciences	87	95	90	96	132	172	275	947
Working Group on capital goods	-	130	106	104	37	66	93	536
Working Group on chemicals and petrochemicals	-	8	57	58	23	30	29	205
Other bodies	155	109	123	40	68	94	108	697
Total	999	1080	911	616	483	559	664	5312

Sources: INPI, Transfer of Technology Contracts and Related Matters Department, Studies and Statistical Section, 1988.

Note: The capital goods and chemicals/petrochemicals working groups were set up in 1982.

A. Procedures and guidelines for the evaluation of contracts

19. To discharge its function as national regulatory authority for the transfer of technology, the Institute has established standardized procedures for the evaluation of contracts. One of the most important texts is Normative Act No. 15 of 1975 which lays down basic concepts and rules for the consideration of contracts. The Normative Act classifies contracts in five categories according to purposes:

(i) Licences for the use of trade marks;

(ii) Licences for the use of patents;

(iii) Supply of industrial technology;

(iv) Industrial technical co-operation; and

(v) Specialized technical services. 10/

20. The first two categories relate directly to industrial property rights (trade marks and patents) duly filed or granted in Brazil. The third and fourth categories both cover contracts for the transfer of non-patented technology. The third refers to the purchase of technology for the manufacture of consumer goods or inputs in general, while the fourth is specifically concerned with contracts for the acquisition of technology for the manufacture of capital goods. The fifth category comprises contracts under which technical services are to be performed or furnished.

21. Each type of contract is required to include clauses specified in the Normative Act, clearly defining the purpose of the contract and the rights and obligations of the parties. As the applicable rules are different, the content of contracts must be confined to one purpose category. Under the rules established by the Institute, a contract dealing with more than one of the five purpose categories cannot be approved by the Institute. If negotiations are concerned with two or more objects, each must be the subject of a separate contract. This rule, which obliges the parties to unwrap the technological package, enables the Institute to ascertain exactly what is being negotiated and on what terms.

22. It should be noted that contracts involving the acquisition of physical goods, such as machinery, parts, raw materials and the like, are not subject to review by the Institute, as it is exclusively concerned with contracts for the transfer of technology and related subjects. If negotiations are concerned with the import of physical goods as well as with the transfer of technology, the two subjects must be dealt with in separate contracts. The parties are required to submit the documentation relating to the import of physical goods to the external trade authorities.

23. Contracts must be prepared in accordance with the guidelines laid down in Normative Act No. 15 and submitted to the Contracts Department, which examines them in depth by utilizing all the available resources in reaching a decision. The process consists of two stages. The first stage, which is called prior consultation, was introduced in 1978 by Normative Act No. 32 and is more important since it provides the Institute with the opportunity to express its views regarding the feasibility of the contract. All contracts involving foreign currency remittances are subject to prior consultation. Contracts under which no payment is made and contracts between companies operating in Brazil are exempted from this requirement.

24. The second stage is the formalization of the contract and its registration by the Institute.

25. During the first stage of evaluation, every aspect of the transaction is analysed by the Institute, with particular reference to the legal, economic and technological aspects of the contract. The main elements of the analysis are as follows:

1. Legal aspects

26. The following aspects are looked into: the legislation by which the contract will be governed and interpreted; observance of the legal and other requirements regarding the form of the contract; the legal situation regarding industrial property rights involved in the contract (registration, duration, etc.); and the terms of the contract, which must conform to the legal requirements and may not include provisions regarded as restrictive under Brazilian law.

2. Technological aspects

27. Among the elements analysed are: the nature of technology to be transferred (level of sophistication, age, results in other countries); existence of alternative or competing technologies in Brazil and abroad; possibility of developing the same technology independently in Brazil; existence of more modern technology or technology better suited to Brazilian conditions; capacity of the Brazilian company concerned to absorb the technology and to function independently on completion of the contract.

3. Economic aspects

28. The examination encompasses the following questions: the relationship between the negotiating companies as regards ownership; the contract price of the technology; terms of payment (when due, readjustment, tax liability, etc.); economic and financial status of the acquiring company; cost of alternative technologies; cost of developing the technology independently; compatibility of the contract with the Government's economic and technological policy; balance-of-payments impact of the contract; ability of the Brazilian market to absorb a new producer; and, potential contribution of the technology to specific government programmes.

29. On completion of the above-described review, the Institute takes a decision on the draft contract. Such a decision may either approve completion of the negotiation as proposed by the applicant company or propose the modification of certain provisions. If the negotiation is considered to be unsatisfactory or contrary to national economic or technological policy, the contract will not be approved by the Institute. The Institute's decision is communicated to the interested party and published in the Industrial Property Gazette. If the draft contract is deemed acceptable by the Institute - either as it stands or subject to certain modification - it is up to the interested party to initiate the second stage by presenting the completed contract to the Transfer of Technology Contracts and Related Matters Department of the Institute for final approval and registration of the contract. The registration certificate attests that the contract was submitted to and approved by the Institute.

B. Basic criteria for the approval of contracts

30. The Institute uses a set of criteria to ensure that contracts are not contrary to established government policies and correspond to fair and balanced business practices. The most important parameters are the following:

1. Legislation

31. The Institute insists that Brazilian law should govern contracts for the transfer of technology and should be used exclusively and without reservation. It also insists that in the event of any dispute, the competent tribunal must be a Brazilian one.

2. Language

32. The contract must be written in Portuguese, the country's official language. If the contract is drafted in more than one language, the Portuguese text prevails.

3. Payments

33. The Institute sets a ceiling for the price to be paid for imported technology using a variety of indicators, including the novelty and complexity of the technology, the quality of the product, the economic sector concerned, the length of the contract, etc. The following are also used as parameters: prices in previous negotiations for similar technologies in the same market sectors; and, the ceilings set in Law No. 3470 and Ministry of Finance Rule No. 436/58 which lay down the maximum tax deductions allowable for royalty and technical assistance payments. These ceilings which range as high as 5 per cent of the gross earnings of the product manufactured or sold are taken as the maximum payable for the technology transferred. Some of the ceilings, which depend on the product to be manufactured using the technology concerned, are listed below:

Electric generating equipment	5 per cent
Equipment for the production of fuels	5 per cent
Ships and marine equipment	5 per cent
Chemicals	4 per cent
Foods	4 per cent
Pharmaceuticals	4 per cent
Electrical equipment	3 per cent
Scientific apparatus	3 per cent
Business machines	3 per cent
Plastic and rubber articles	2 per cent.

34. Calculation of the payment is based on the net price defined by Normative Act No. 15. The net price is the invoice price net of taxes, inputs and components imported from the supplier of the technology or suppliers directly or indirectly related to him, commissions, credits for returns, freight, insurance and packing, as well as any other deductions that may be agreed by the parties. Payment of a fixed amount may be made for technical documentation furnished at the outset of the contract. This amount is required as an advance payment to be deducted from payments made in the course of the contract. In the case of negotiations for which the total payment is a fixed amount, the same criteria are used, based on projected sales during the life of the contract, the projected sales being correlated with the price paid for the technology.

4. Tax

35. Under the income tax regulations, the tax rate on royalties and similar revenues is 25 per cent. This tax should in principle be paid by the supplier of the technology. The tax may however be paid by the buyer provided that the amount of the payment is deducted from the royalty to be paid. The ceiling set by the Institute is thus unchanged.

5. Companies of the same economic group

36. The Brazilian subsidiaries of foreign companies are not allowed to make remittances to their parent companies abroad as payments for technology transfer or royalties for the use of trade marks or patents. In the case of affiliated companies, remittances may not be made if the majority of the capital of the Brazilian company is held by the associated company abroad or the latter exercises effective control. The only type of remunerated contract between a foreign company and its subsidiary in Brazil which may be approved by the Institute is a contract for specialized technical services. In such cases, payment must be made on the basis of the cost per man/hour of the services actually furnished. Contracts between companies under the control of the same group for the use of trade marks and patents may be approved if the licence is given without payment. In the case of joint ventures, remittances for transfers of technology and royalties from the Brazilian company to its partner abroad may be permitted if the Institute is satisfied that technical and managerial control of the enterprise is effectively exercised by the Brazilian company.

6. Restrictive practices

37. The Institute does not accept the inclusion in technology contracts of clauses embodying restrictive business practices that may impede the manufacture or marketing of goods made with the imported technology or hamper or limit the growth or operations of the acquiring company. In particular, the Institute rejects clauses which:

(i) regulate or limit the production, sale or price of the goods to be made or the areas in which they may be used or marketed;

(ii) hamper or limit the export of goods;

(iii) require or make the contract conditional on the purchase of inputs, parts or machines from the supplier of the technology or other sources designated by the supplier;

(iv) require use of the trade mark of the supplier of the technology or other marks designated by the supplier;

(v) oblige the acquiring company to transfer part of its capital to the supplier;

(vi) regulate the engagement and management of the acquiring company's employees;

(vii) set conditions for the management of the company;

(viii) contain provisions likely to limit, regulate or impede the research and technological development programmes and policies of the acquiring company;

(ix) restrict advertising by the acquiring company;

(x) hamper free utilization of the technology after the expiry of the contract;

(xi) impose any obligations on the acquiring company after the expiry of the contract;

(xii) bind the acquiring company after the expiry of the contract to secrecy regarding the technology transferred;

(xiii) require the use of a specified quality control system;

(xiv) levy penalty charges if a specified standard of quality is not achieved;

(xv) oblige the acquiring company to transfer any innovations or improvements developed by it free of charge to the supplier;

(xvi) provide for payment for the use of a foreign patent not granted in Brazil;

(xvii) seek to prevent the acquiring company from challenging through administrative channels or by legal process any industrial property rights claimed or obtained in Brazil by the supplier of the technology;

(xviii) release the supplier from liability in the event of legal action by third parties arising from vices or defects of the technology;

(xix) release the supplier from liability for infringement of industrial property rights inherent in the technological content of the contract.

38. Table 2 summarizes the results of a survey carried out by the Institute regarding the nature and frequency of restrictive practices in 257 contracts submitted to it for approval during 1984-1985.

7. Duration

39. The Institute sets a five year limit for remunerated contracts. This limit may be extended if the Institute so decides for a further period of up to five years. In the case of contracts payment, the contract may run for the period of validity of the patent or trade mark licensed.

Table 2

INPI - Number of contracts (prior consultation) presenting restrictive clauses according to the kind of clauses - 1984/1985

NUMBER OF NEGOTIATIONS / RESTRICTIVE CLAUSE	1984			1985			Total Number of Prior Consultations (1984+1985)	Percentage
	Non-patented Technology	Patented Technology	Total	Non-patented Technology	Patented Technology	Total		
Excessive payments	39	2	41	60	8	68	109	42.4
Transfer of obligations from the supplier to the acquirer	23	4	27	36	2	38	65	25.3
Control over acquirer/ licensee operations	18	1	19	44	1	45	64	24.9
Non-existence of legal and technological guarantee on the supplier side	9	1	10	36	4	40	50	19.4
Applicability of foreign legislation	28	1	29	17	-	17	46	17.9
Restrictions after expiration contracts	22	-	22	23	-	23	45	17.5
Export restrictions	18	-	18	18	-	18	36	14.0
Term excessively long	15	2	17	16	3	19	36	14.0
Non-reciprocal grant-back clauses	9	2	11	16	3	19	30	11.7
Prevalence of foreign language	4	1	5	12	1	13	18	7.0

Source: INPI, Transfer of Technology Contracts and Related Matters Department, Studies and Statistical Section, 1988.

Notes: 1) The negotiations were defined according to INPI's Normative Act No. 15/75 as follows:
Non-Patented Technology - Industrial Technology Supply and Technical-Industrial Co-operation
Patented Technology - Licence for Patent Exploitation.

2) The survey has covered 257 negotiations.

3) The same contract may have more than one restrictive clause.

C. Effects of the registration of contracts

40. Under the Industrial Property Code (Law No. 5772/71), instruments or contracts involving the transfer of technology are subject to approval by the Institute. Submission of the contract to the Institute is a legal requirement which must be complied with by all parties to transfer of technology transactions. The registration of the contract by the Institute engenders certain legal effects which are of practical importance to such parties. These effects include:

(i) The legitimization of remittances abroad by the acquiring party, since the Central Bank will not authorize remittances without the Institute's approval of the contract;

(ii) Fiscal benefits where applicable, since tax authorities will not authorize the income tax deductions permitted by law if the contract has not been approved;

(iii) Proof of the use of patents or trade marks in Brazil. This ensures that the trade marks or patents will not lapse or be revoked due to failure to use them in the country within the period prescribed by law. 11/

Chapter III

ANALYSIS OF TECHNOLOGY FLOWS TO BRAZIL

41. Since the Institute was established in 1970, some 23,500 contracts have been submitted to it for review and evaluation, of which 18,000 were approved and the remainder rejected. According to data furnished by the Transfer of Technology Contracts and Related Matters Department of the Institute, 13,615 contracts were submitted for approval during the period 1978-1987 and, as shown in table 3 below, 81.8 per cent of these contracts were approved.

Table 3

Contracts submitted for approval

(1978 - 1987)

Contracts	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	Total
Contracts submitted	1473	1456	1576	1426	1438	1296	907	1043	1185	1815	13615
Contracts approved	1451	1416	1332	1178	1135	969	786	769	885	1213	11134
Percentage approved	98.5	97.3	84.5	82.6	78.9	74.8	86.7	73.7	74.7	66.8	81.8

Source: INPI, Transfer of Technology Contracts and Related Matters Department, Studies and Statistical Section, 1988.

42. The table also shows that the number of contracts submitted fluctuates cyclically. From a peak in 1980, when 1,576 contracts were submitted, the number declined to a low of 907 in 1984, then gradually rose again. This cyclical movement reflects the general movement of the Brazilian economy which enjoyed a period of continuous growth in the 1970s, followed by a severe recession in the early 1980s. GDP fell from $US 266 billion in 1983 to about $US 204 billion in 1983 and the fall in the general level of economic activity was accompanied by a contraction of the flow of technology. The situation improved by 1984 when GDP rose to $US 211 billion and growth was resumed.

43. Furthermore, the table shows that the percentage of contracts approved fell substantially from 1980-1981 on, principally as a result of the refinement of the Institute's operational structure to permit an increasingly active role in the selection of imported technologies, in particular in specialized technical services. 12/ Contracts for specialized technical services were the major category of contracts approved over the 10 year period, accounting for more than half of all approvals (55.7 per cent). These contracts are basically concerned with the use of foreign assistance in setting up machinery and

equipment and other engineering services. The next largest category consists of contracts for licensing of trade marks, most of them involving companies in the clothing, electrical equipment and chemical sectors. The third category consists of contracts for the supply of industrial technology involving the imports of non-patented technology for the manufacture of consumer goods and inputs in general, which account for 8.3 per cent of approvals. The fourth category consists of industrial technical co-operation contracts relating to the acquisition of non-patented technology for the manufacture of custom-made capital goods. The fifth, with only 6 per cent of total approvals, relates to licences for the use of patents, the main source of contracts in this area being companies in the electrical, mechanical engineering and metallurgical industries. Table 4 shows the distribution of the various types of contracts.

Table 4

Number of contracts approved by category (1978 - 1987)

Category	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	TOTAL	%
Specialized technical services	1052	933	826	759	630	458	309	302	445	491	6205	55.7
Licensing of trade marks	81	194	224	248	240	295	266	287	246	417	2498	22.4
Supply of industrial technology	134	113	84	60	113	74	65	61	78	138	920	8.3
Industrial technical co-operation	141	103	126	72	87	70	69	60	53	68	849	7.6
Licensing of patents	43	73	72	39	65	72	77	59	63	99	662	6.0
TOTAL	1451	1416	1332	1178	1135	969	786	769	885	1213	11134	100.0

Source: INPI, Transfer of Technology Contracts and Related Matters Department, Studies and Statistical Section, 1988.

44. As can be seen in table 4, there was a substantial increase in the number of approved trade mark licensing contracts during the period. This was due to the expansion of the clothing, electrical equipment and chemical sectors, the principal users of contracts of this kind. Companies introducing new products are keen to use trade marks with which the public is already familiar and this often necessitates licensing arrangements.

45. There was a significant decline in contracts for specialized technical services, which accounted for 72.5 per cent of all approvals in 1978 but fell to about 40.5 per cent by the end of the period. As was mentioned earlier, the reduction was due to the Institute's introduction of more effective review processes. During the period, the working groups and other organizations consulted provided external support in controlling imports of technical services and preventing unnecessary imports.

46. Contracts approved in the period 1978-1987 were heavily concentrated in 8 of the 70 sectors considered for statistical purposes. As table 5 shows, companies in these eight sectors accounted for 70 per cent of all contracts approved during the decade.

Table 5

Number of contracts approved by industrial sector

(1978 - 1987)

Sector	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	TOTAL	%
Mechanical engineering	225	181	164	133	158	133	110	107	106	181	1498	13.5
Metals	284	225	225	188	112	89	72	61	99	107	1462	13.0
Chemicals	155	142	125	123	120	81	86	99	97	113	1141	10.0
Minerals	98	131	129	110	94	65	30	38	106	103	904	8.0
Engineering and consulting services	107	146	142	107	107	70	43	39	43	33	837	7.5
Electronics and electrical equipment	57	68	58	35	63	76	67	61	82	184	771	7.0
Textiles	92	79	81	68	57	63	50	27	42	62	621	5.6
Transport equipment	91	85	81	51	62	53	50	41	38	47	599	5.4
Other sectors	342	359	326	363	362	339	278	296	272	383	3320	30.0
TOTAL	1451	1416	1332	1178	1135	969	786	769	885	1213	11134	100.0

Source: INPI, Transfer of Technology Contracts and Related Matters Department, Studies and Statistical Section, 1988.

47. The leading sector was the mechanical engineering which accounted for 13.5 per cent of all contracts registered. Metals came second with 13 per cent, despite the decline during the period, in the course of which the sector's share fell from 19.5 per cent of all approvals in 1978 to under 9 per cent in 1987. Although its share of all approvals is only 7 per cent, the electronics and electrical equipment sector is also outstanding and, unlike the other sectors listed, increased substantially its share in 1987 to over 15 per cent as against 4 per cent in 1978. This growth was mainly due to contracts for the importation of technology and services for the electronics industry, including data processing, which has been extraordinarily dynamic in recent years.

48. Classification of contract approvals by the ownership or control of the capital of the acquiring company, for which data are available for 1983-1986, shows that most contracts approved (42.1 per cent) were signed by companies owned by Brazilian private capital with no participation by the company supplying the technology. Brazilian government-controlled companies are in the second place with 19.8 per cent of approvals. Their significant share is due to the operations of Brazilian government-controlled companies in the exploration of mineral resources, in particular oil, which led to massive imports of technology and specialized technical services. Next came privately-owned companies controlled by foreign groups either with the participation of the licensing company (18.2 per cent) or without (13.2 per cent). In the last place, as table 6 shows, are Brazilian privately-owned companies in which the supplier of the technology has a share-holding interest.

49. As regards the origin of the technology acquired, nearly 20 per cent of contracts approved were betweeen companies in Brazil, two thirds of which were for the use of registered trade marks. The remaining approvals (80 per cent) were for imports of technology and reflect Brazil's relationships with its principal trading partners. As shown in table 7, over 70 per cent of the contracts registered were with sources in seven countries, and three of them (the United States, the Federal Republic of Germany and France) accounted for more than half of the contracts (52.3 per cent). The share of the United States, the source of technology in 29 per cent of the contracts approved, is very significant.

50. With regard to payments, table 8 shows that imports of technology into Brazil resulted over the past nine years in remittances totalling $US 2,103 million for royalties and similar payments. Most of these remittances (81.1 per cent) related to contracts for the supply of specialized technical services, although this item's share declined substantially over the decade, falling from $US 284 million (88.5 per cent) in 1980 to $106 million (61 per cent) in 1987. In the second place, came contracts for the acquisition of non-patented technology with about 15.7 per cent of total remittances. Most of the contracts in this category are for the acquisition of technology for the manufacture of consumer goods and inputs in general (supply of industrial technology), accounting for remittances totalling $US 179 million. Contracts for industrial technical co-operation, covering the supply of technology for the manufacture of custom-made capital goods, were responsible for remittances totalling $US 150 million. Finally, licensing contracts, chiefly for patents, accounted for remittances totalling $US 69 million, about 3.3 per cent of the total remitted.

51. It should be noted that the volume of remittances has decreased significantly in recent years. The total in 1987 was little more than half the amount remitted at the beginning of the decade. The reduction is due, as was observed earlier, to two factors: the efforts of the Institute and the effects of the economic recession. The Institute's efforts on the selection of technologies and services to be imported, as well as on fair terms of payment, significantly contributed to the reduction of remittances. At the same time, the recession in the Brazilian economy sharply reduced the amounts remitted. With the recession, sales shrank, automatically reducing payments for the technology used.

Table 6

Number of contracts approved by ownership or control of company

(1983-1986)

Ownership of control	Number of contracts	Share (%)
Brazilian private capital a/	1435	42.1
Government controlled capital	673	19.7
Foreign private capital b/	619	18.2
Foreign private capital a/	449	13.2
Brazilian private capital b/	233	6.8
TOTAL	3409	100.0

Source: INPI, Transfer of Technology Contracts and Related Matters Department, Studies and Statistical Section, 1988.

Note: The figures include contracts between parent and subsidiary companies licensing the use of patents and trade marks free of charge. (No payment may be made for licences given by a parent company to a subsidiary).

a/ Without capital participation of technology supplier.

b/ With capital participation of technology supplier.

Table 7

Number of contracts approved by source

(1978-1987)

Country	Number of contracts	Share (%)
United States	3214	29.0
Federal Republic of Germany	1703	15.3
France	885	8.0
Japan	853	7.6
United Kingdom	666	6.0
Italy	571	5.1
Switzerland	498	4.4
Other countries	2744	24.6
TOTAL	11134	100.0

Source: INPI, Transfer of Technology Contracts and Related Matters Department, Studies and Statistical Section, 1988.

Table 8

Remittances for imports of technology and the like

(1979-1987)

(Millions of US dollars)

Year	Trademarks and patents	Industrial technical co-operation	Supply of industrial technology	Specialized technical services	Total
1979	9	6	11	287	313
1980	12	11	14	284	321
1981	12	18	12	234	276
1982	5	17	10	208	240
1983	12	10	14	182	218
1984	9	8	8	177	202
1985	5	21	41	108	175
1986	2	20	43	119	184
1987 a/	3	39	26	106	174
TOTAL	69	150	179	1705	2103

Source: Reports of the Central Bank of Brazil.

a/ Preliminary data.

Chapter IV

IMPACT OF THE INTRODUCTION OF LAWS AND REGULATIONS

52. The laws and regulations on transfer of technology were introduced gradually over a period of 30 years. There were two distinct stages: a first stage during which limited legislative steps were taken to regulate certain aspects of technology transfer, and a second one, during which the Institute provided the main institutional and legal framework for the action taken in the area of technology. The earliest measures were designed to counter the fiscal evasion that was being practised under the cloak of technology importation. The first legislation limited the allowable tax deduction for royalty payments or payments for technical assistance to a maximum of 5 per cent of earnings from the product sold. Later, the regulations limited the period during which deductions could be claimed to five years from the first use of the technology. These measures, which were introduced in the late 1950s and early 1960s, helped to prevent the fiscal abuses that used to occur in the past in connection with technology transfer transactions. During the same period, remittances of royalties by Brazilian-based subsidiaries to their parent companies abroad were prohibited. This also helped to limit fiscal evasion since remittances of profits could no longer be disguised as royalties or technical assistance payments as a device to avoid taxation on the remittance of profits. The legislation dealing with fiscal matters and the use of foreign capital was followed by measures aimed at the abuse of economic power. This legislation was designed to prevent the use of restrictive clauses involving the transfer of technology.

53. The second stage in the implementation of laws and regulations on transfer of technology began with the establishment of the Institute in 1970. It was marked by a new approach concentrating on issues specifically related to the transfer and development of technology. For the first time, an institutional framework was created to deal with all transactions involving the licensing of trade marks and patents and the transfer of technology. As a result, a data bank was built up with copies of more than 20,000 contracts and other information of interest to negotiating companies. The contracts were drafted in accordance with the rules laid down by the Institute and, in order to be in conformity with the regulations, had to be formulated on the basis of a standardized pattern which would facilitate the use of common terminology.

54. One of the Institute's major concerns from the start was prevention of the abuse of economic power. The Institute accordingly insisted, and continues to insist, that contracts should not incorporate clauses involving abuse of economic power such as restrictions on the export of goods, mandatory use of the technology supplier's trade mark, the creation of obligations after the expiry of the contract and the transfer free of charge of innovations developed by the licensee. The duration of contracts is strictly controlled and negotiations that do not set a specific period of validity are no longer approved. In the case of contracts involving payment, the period of validity may not exceed five years. Regulations have also been introduced regarding the law governing contracts. Since the contracts are basically performed in Brazil, a contract governed by foreign law is not acceptable. Similar steps have been taken regarding the language used. All contracts must be in Portuguese.

55. One of the most significant by-products of the introduction and enforcement of regulations by the Institute has been the mobilization of other institutions which participate in its activities through working groups. The specialized institutions concerned - research centres, government agencies and trade associations - help the Institute's technical staff to make in-depth reviews of contracts and provide advice and information on matters in their specific areas of interest. At the same time, their participation in the working groups has made the decision-making process more democratic and transparent.

56. Two other highly important aspects are the selection of technologies to be imported and the level of payment provided for in the contracts. With the establishment of the working groups, the Institute has been able to take more authoritative and specific action with regard to the selection of technologies. Contracts proposing to transfer technology that is considered unnecessary or inappropriate to Brazilian industry are not approved. Contracts are also rejected if they involve technologies that are available or could be developed in Brazil.

57. With regard to payment levels, although no statistics are available on the impact of the introduction of the regulations, there has been a visible decline in the prices charged as a result of the Institute's efforts. Contracts now stipulate, in many cases as a result of the Institute's insistence, levels of payment in line with those normally prevailing in international markets. This was not the case in the past. Because of the inexperience and the absence of organized data sources, coupled with the lack of appropriate regulations, the authorities permitted contracts to be negotiated at rates much higher than the real value of the technology to be transferred.

58. In general, the Institute's operations have not resulted in any conflict with technology suppliers, nor have they given rise to any restriction on the flow of technology to Brazil. On the contrary, the terms and conditions of technology have improved, while the flow of technology continued at a normal pace, despite the significant number of contracts that have not been approved or have had to be modified. Most of the complaints received by the Institute concern the time spent to review contracts, although there are also complaints regarding the rules applied, in particular, with regard to payments.

59. It is noteworthy that many enterprises, particularly Brazilian-owned companies, find that they have benefited from the Institute's application of the rules, which has given them increased bargaining power in negotiations with suppliers of technology, many of which are more experienced and more powerful.

60. In light of the foregoing, it may be concluded that the results of the introduction of laws and regulations concerned with the transfer of technology and the establishment of machinery for their application have been positive. New instruments will, however, have to be created to adapt the machinery to the changes occurring in Brazil. In particular, the process of import substitution, which was a crucial element in the development of the Brazilian economy, has lost its former importance.

Notes

1/ "The implementation of laws and regulations on transfer of technology: the experience of the Republic of Korea" (UNCTAD/ITP/TEC/6); "The implementation of laws and regulations on transfer of technology: the experience of Nigeria" (UNCTAD/TT/74); "The implementation of laws and regulations on transfer of technology: the experience of Portugal" (UNCTAD/TT/73); "The implementation of transfer of technology regulations: a preliminary analysis of the experience of Latin America, India and the Philippines" (TD/B/C.6/55); and "Transfer of technology regulations in the Philippines" (UNCTAD/TT/32).

2/ Selected provisions of Law No. 4131 are summarized in the Annex.

3/ The service, originally operated by the now defunct Currency and Credit Inspectorate, is today the responsibility of the Central Bank of Brazil.

4/ Selected provisions of Law No. 4137 are summarized in the Annex.

5/ Selected provisions of Law No. 5772 are summarized in the Annex.

6/ The Paris Convention for the Protection of Industrial Property was signed on 20 March 1883. The 11 signatory States, of which Brazil was one, formed the Union for the Protection of Industrial Property.

7/ In Brazil, a Normative Act is a set of rules issued by the official in charge of the administration of a government authority. Its aim is to regulate the activities of the authority as well as its relationship with the public. The functionaries of the authority and the persons interested in using its services must follow such rules.

8/ Selected provisions of the Normative Act are summarized in the Annex.

9/ The working groups' participation in the evaluation of contracts submitted to the Institute is shown in table 1 of chapter II.

10/ This category, established by Normative Act No. 15, was redefined by Order No. 60 (1982).

11/ Under the Industrial Property Code, a patent may be declared lapsed if it is not used within four years of its granting date. For trade marks, the period is two years after the date of registration.

12/ The structural changes are described in chapter I, paragraphs 12 and 13.

Annex

SELECTED PROVISIONS OF THE APPLICABLE LEGISLATION

A. Laws and Normative Acts

(1) Selected provisions of Law No. 4131 (regulating the investment of foreign capital and remittances of funds abroad)

Article 3 Sets up a registry for foreign capital imported into Brazil and remittances abroad, such as royalties and payments for technical assistance. Under article 9, remittances can only be made if the relevant contracts and documents are registered.

Article 12 Provides that royalties for the use of patents and trade marks and payments for technical, scientific, administrative or similar assistance may be deducted from income tax up to a maximum of 5 per cent of sales of the product. The percentages are to be set from time to time by the Ministry of Finance taking into account the types of goods produced. Deductions may only be made during the first five years following introduction of the technology.

Article 14 Prohibits the remittance of royalties from subsidiaries in Brazil to their parent companies abroad or from companies in Brazil in which the recipient of the royalties is the majority shareholder.

(2) Selected provisions of Law No. 4137 (concerning the prevention of abuses of economic power)

Article 2 Defines the following as abuses of economic power:

(i) Dominating national markets wholly or partly and eliminating competition by means of:

- complete or partial stoppage of company operations directly or through the actions of third parties;

- creation of obstacles to the formation, operation and expansion of companies.

(ii) Where a natural or de facto monopoly exists, making unwarranted increases in prices to secure an arbitrary increase in profits without increasing production;

(iii) Promoting monopolistic situations or engaging in wrongful speculation to cause price rises;

(iv) Forming groups of companies which impair the freedom of choice of buyers or sellers by:

- setting discriminatory prices or discrimination in the provision of services;

- making purchase of one product conditional on the purchase of another product or use of a particular service;

(v) Unfair competition.

(3) Selected provisions of Law No. 5772 (enacting the Industrial Property Code)

Article 2 Industrial property rights are protected by means of:

(a) The granting of privileges in respect of:

- Inventions;
- Utility models;
- Industrial models, and
- Industrial designs.

(b) Registration of:

- Industry, trade or service marks, and
- Advertising slogans or devices.

(c) The prevention of false descriptions of origin;

(d) The prevention of unfair competition.

Article 29 Licences for use must be made in due legal form stipulating the terms of payment and conditions regarding use:

- Payment must be set in conformity with the laws and regulations in force;
- Licences may not be granted subject to restrictions on the marketing or export of goods covered by the licence or the import of inputs.

Article 30 Licences are subject to registration by the National Institute of Industrial Property.

Article 126 Contracts or instruments involving the transfer of technology are subject to registration by the Institute.

(4) Main provisions of Normative Act No. 15 (setting guidelines for the approval of contracts for the transfer of technology and the like)

The approval of contracts is necessary to:

(a) Legitimize payments within Brazil or abroad;

(b) Obtain tax deductions;

(c) Furnish proof of the actual use of trade marks or patents registered in Brazil.

Contracts for the transfer of technology and the like are classified by their subject matter in five categories.

As the applicable provisions are different, a separate contract must be drawn for each subject-matter in conformity with the appropriate category.

The subject-matter categories and the applicable regulations are as follows:

B. Contracts

(1) Contracts licensing the use of patents

These contracts authorize the use in Brazil of patents applied for or granted in Brazil by persons other than the patentee.

The contract must:

Provide for the supply of the full set of information, technical data, formulas, specifications, drawings, models and the like relating to the use of the patent;

Provide, where appropriate, for technical assistance by the licensor's technicians and training of the licensee's technical staff;

Specify whether the licence is exclusive and whether sub-licensing is permitted;

Specify that any improvement or refinement to the product or process introduced by the licensee belongs to the latter, whose information regarding the improvement may be transmitted to the licensor;

Stipulate that the licensor must furnish the licensee without delay with detailed information on any improvement or refinement to the product or process.

(2) Contracts licensing the use of trade marks

These are contracts specifically authorizing the use by third parties of trade marks duly applied for or registered in Brazil.

The contract must:

Authorize the licensee to make use, if he thinks fit, of his own trade mark or advertising together with the licensed mark or advertising or to use his mark alone when he manufactures or markets products or services other than those specifically distinguished by the licensed mark or advertising;

Provide that the products or services carrying the trade mark or advertising will be of the same specifications, nature and quality as the products originally produced by the licensor, subject to any domestic requirements laid down by the competent authorities;

Specify whether the licence is exclusive or not and whether sub-licensing is permitted;

Specify that the licensee must actually use the mark and the advertising covered by the licence in accordance with the provisions of the Industrial Property Code.

(3) Contracts for the supply of industrial technology

This category comprises contracts specifically providing for the acquisition of techniques and knowledge not protected by industrial property rights applied for or granted in Brazil to be used in the production of consumer goods and inputs generally.

The contract must:

Cover the supply of all the technical engineering data relating to the process or product, including the methodology used, the data being represented by the set of formulas and technical data, documents, industrial designs and models, operating instructions and the like required for the manufacture of the product;

Provide for the supply of data and information to keep the process or product up to date;

Provide for the furnishing of technical assistance by the supplier's technicians and training of the acquiring company's technical staff;

Clearly stipulate that the technology transferred will be complete and sufficient to achieve the desired purpose and the independence essential to that end;

Guarantee that the supplier will not, at any time, assert any industrial property rights relating to the content of the technology transferred, with the exception of future innovations related to that technology, provided the latter are duly protected in Brazil with priority established in the supplier's country of residence or domicile.

(4) Contracts for industrial technical co-operation

These are contracts for the acquisition of knowledge, techniques and services required for the construction of industrial units and sub-units, machinery, equipment, components and other custom-made capital goods.

The contract must:

Cover the supply of all the technical data, drawings and engineering specifications for the product and the materials used for its manufacture, as well as the technical methodology used;

Provide for the supply of data and information to keep the product up to date;

Provide for the furnishing of technical assistance by the supplier's technicians and the training of the receiving company's technical staff;

Stipulate that the content of the technology transferred will be complete and sufficient to achieve the desired purpose and the independence essential to that end;

Guarantee that the supplier will not at any time assert any industrial property rights relating to the content of the technology transferred, except with regard to special features of the product or future innovations related to the product, provided that they are duly protected in Brazil with priority established in the co-operating company's country of residence or domicile and covered by licensing contracts.

(5) Contracts for specialized technical services */

These are contracts for the supply of services for:

Overall planning;

Organizational management and related studies;

Pre-feasibility and technical, economic and financial feasibility studies;

General planning studies including studies relating to engineering services;

Preparation of preliminary, general and operational plans;

Development of arrangements for the management, control and technical supervison of works;

Engineering services relating to supplies, installation, assembly, inspection and/or supervision of assembly, performance trials and start up of industrial equipment and units;

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*/ As defined in Normative Act No. 60, which amended Normative Act No. 15, Article 6.

Employment of foreign specialists to perform specialized functions on a short-term basis;

Professional/technical consultancy and/or engineering services, including recommendations, expert surveys and technical training of staff;

Laboratory analysis or experiments or industrial or semi-industrial production at the request of Brazilian companies to determine the technical and economic feasibility of making use of local materials or determining the technology best suited to this purpose;

The development and use of computer programmes and systems;

Any other type of technical assistance or technical services not covered by other categories of contract subject to registration by the Institute.